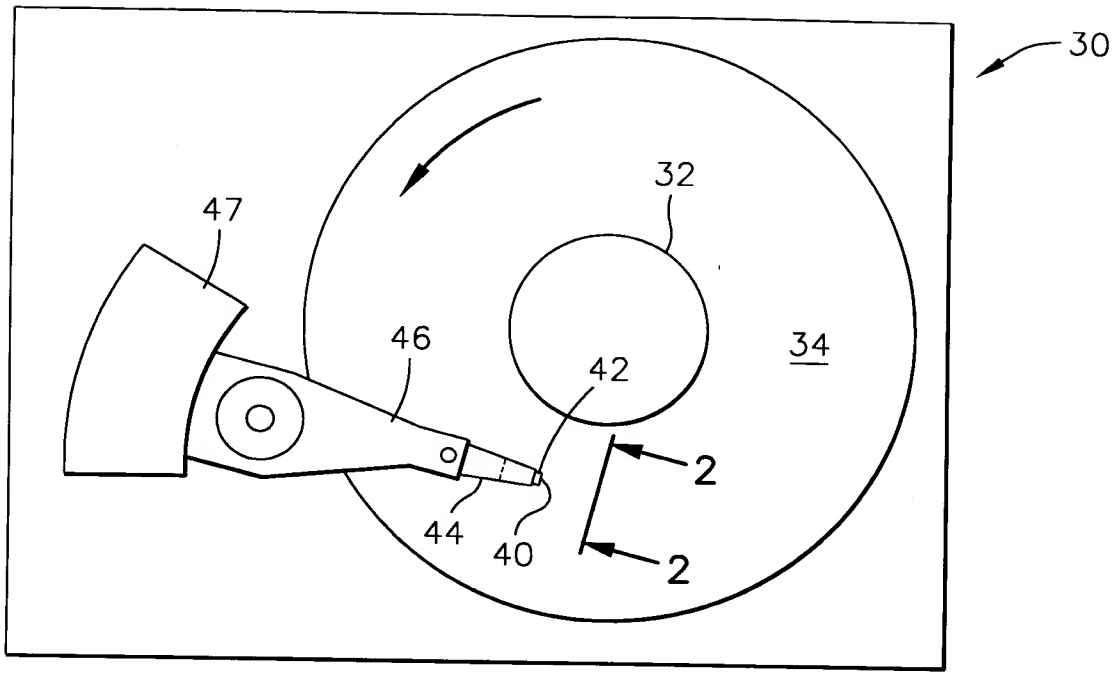

FIG. 1

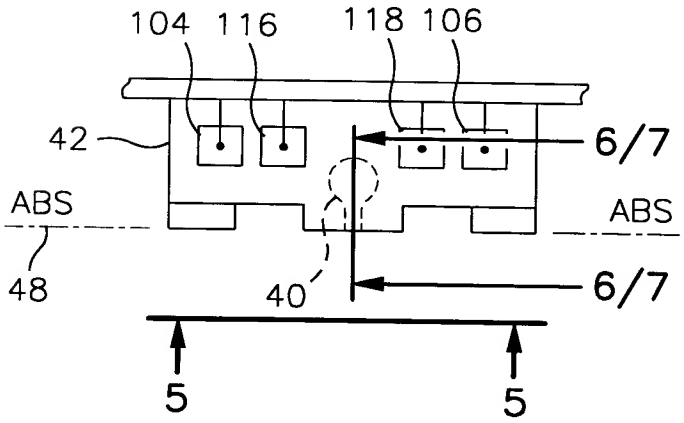

FIG. 2

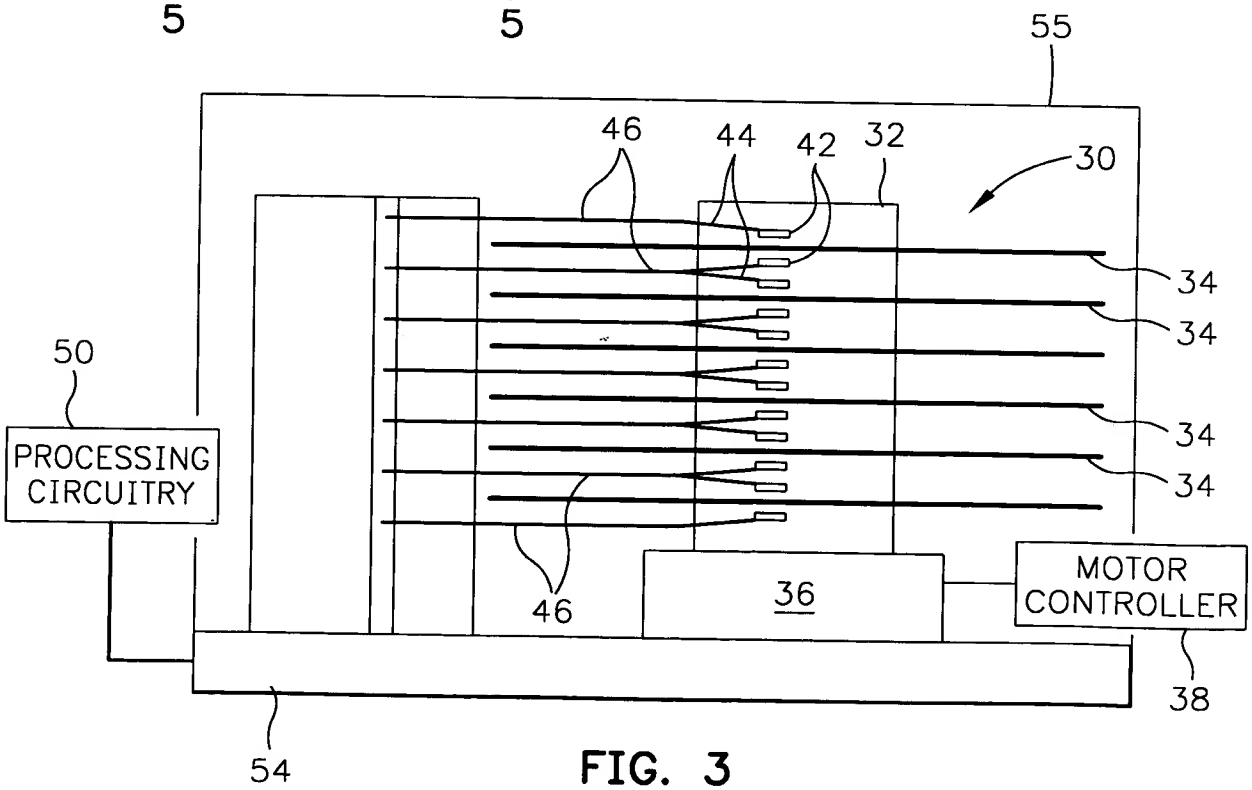

FIG. 3

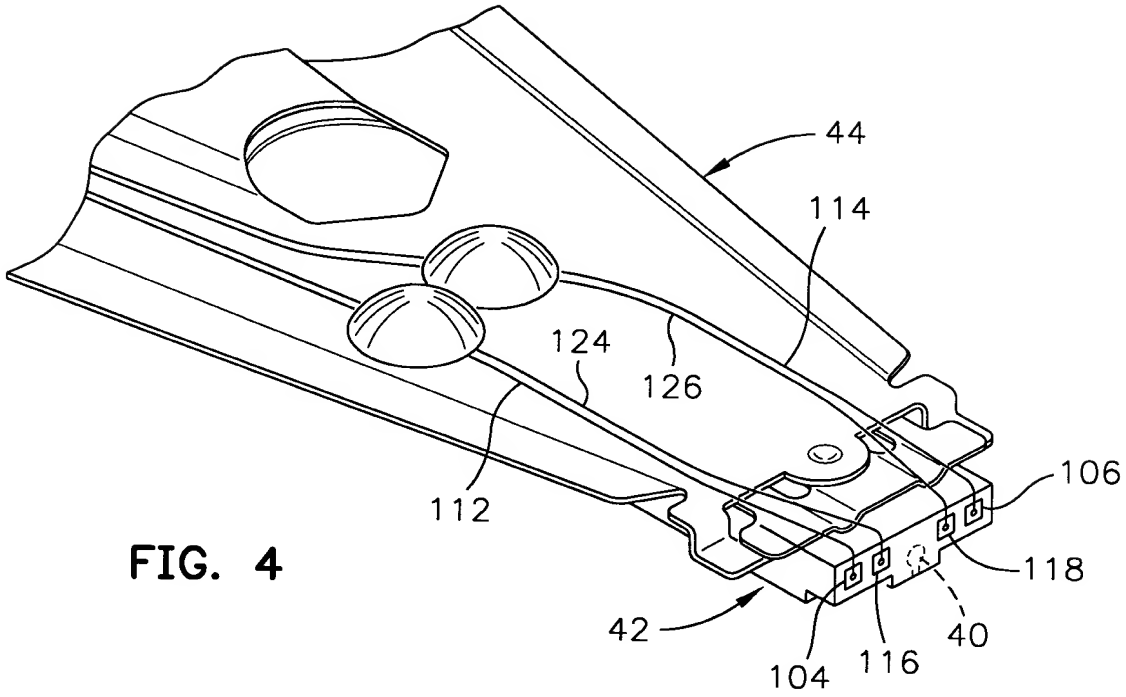

FIG. 4

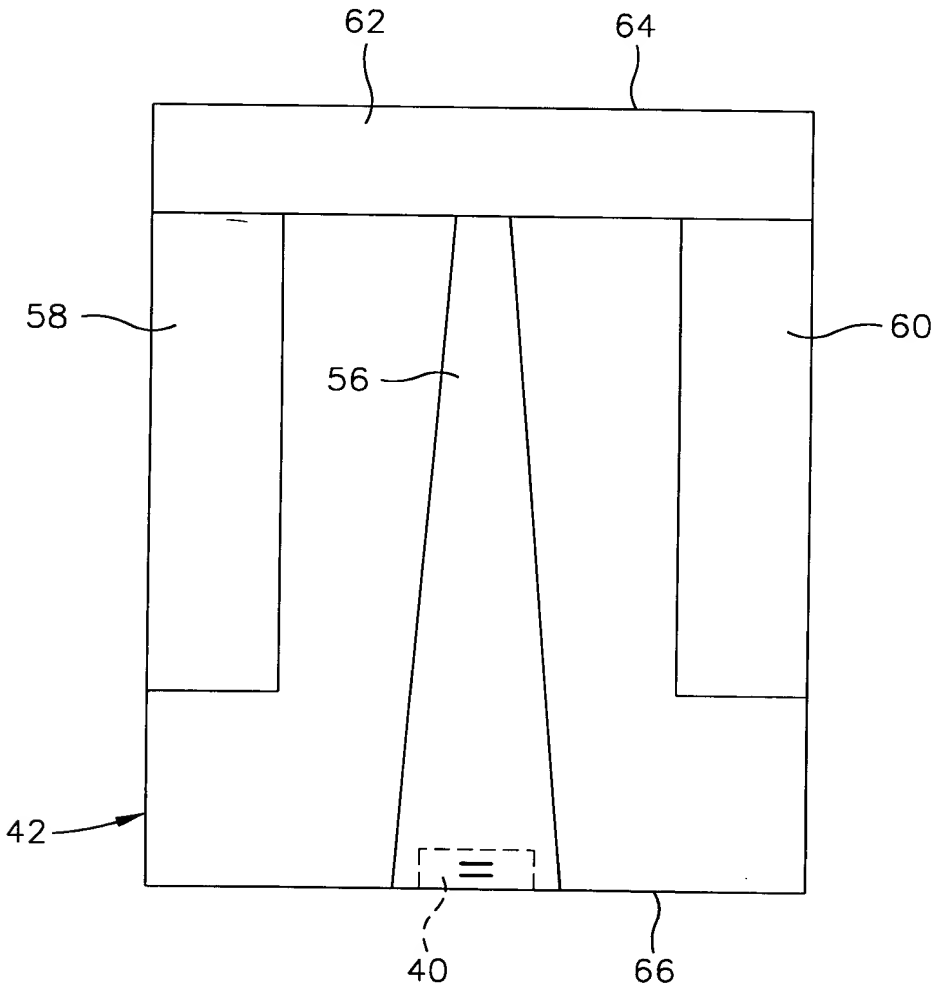

FIG. 5

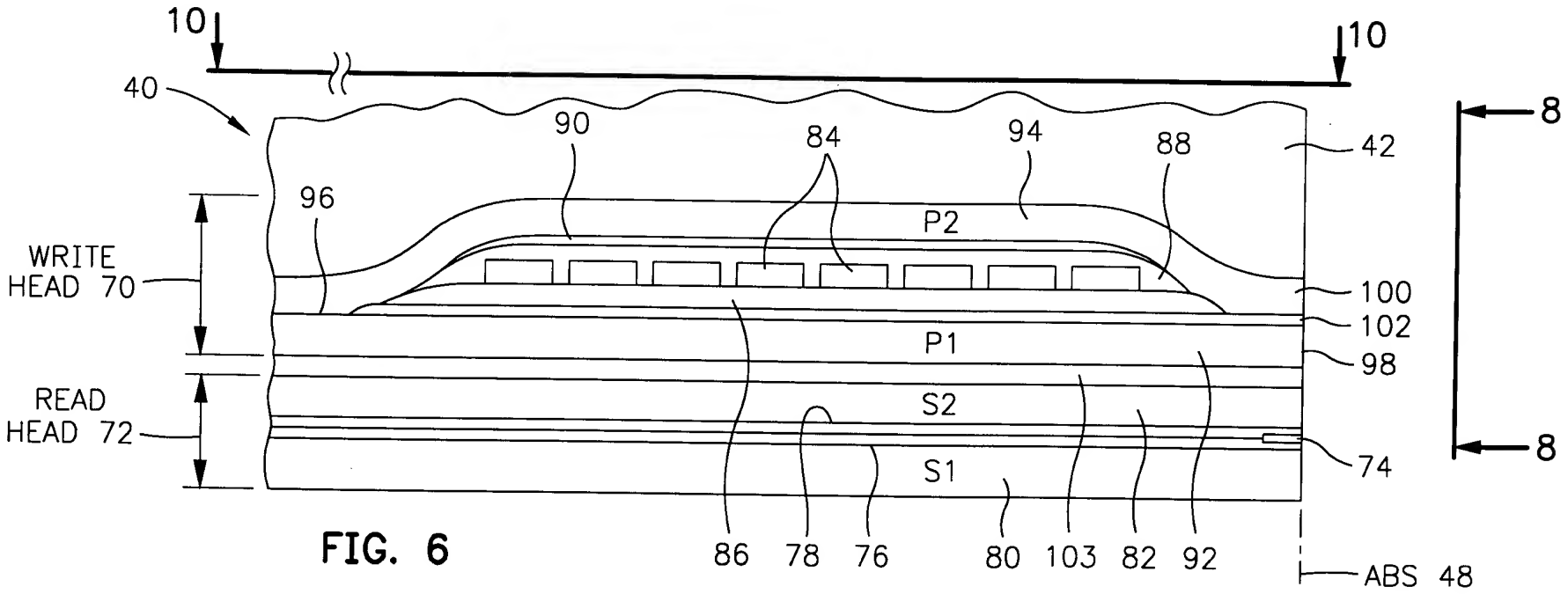
10
10
40
90
84
94
88
42
8
96
P2
WRITE
HEAD 70
100
102
P1
98
READ
HEAD 72
S2
74
S1
8
86
78
76
80
103
82
92
ABS 48

FIG. 6

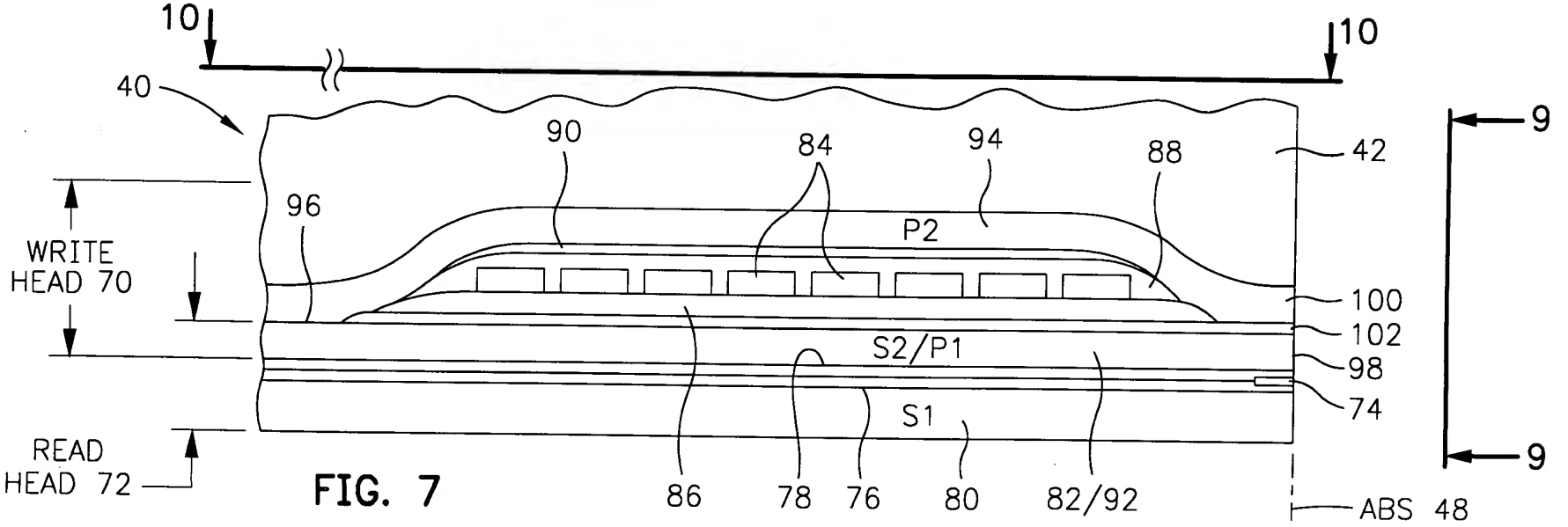
10
10
40
90
84
94
88
42
9
96
P2
WRITE
HEAD 70
100
102
S2/P1
98
74
S1
READ
HEAD 72
9
86
78
76
80
82/92
ABS 48

FIG. 7

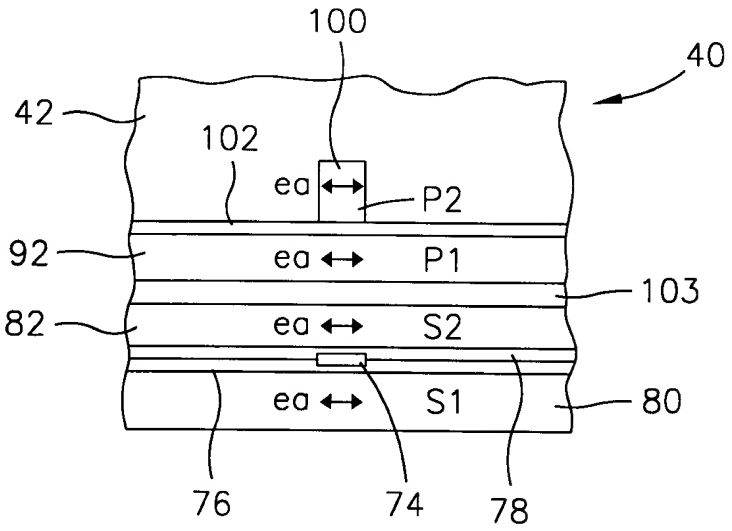

FIG. 8

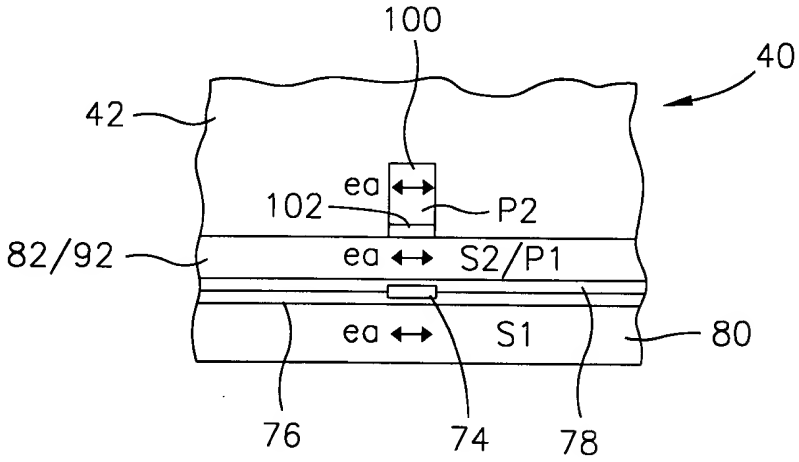

FIG. 9

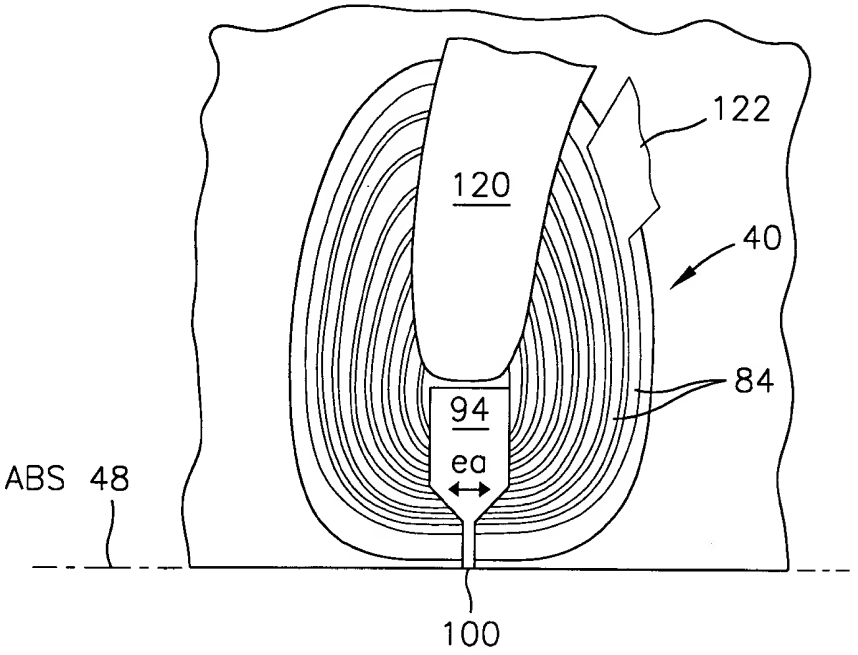

FIG. 10

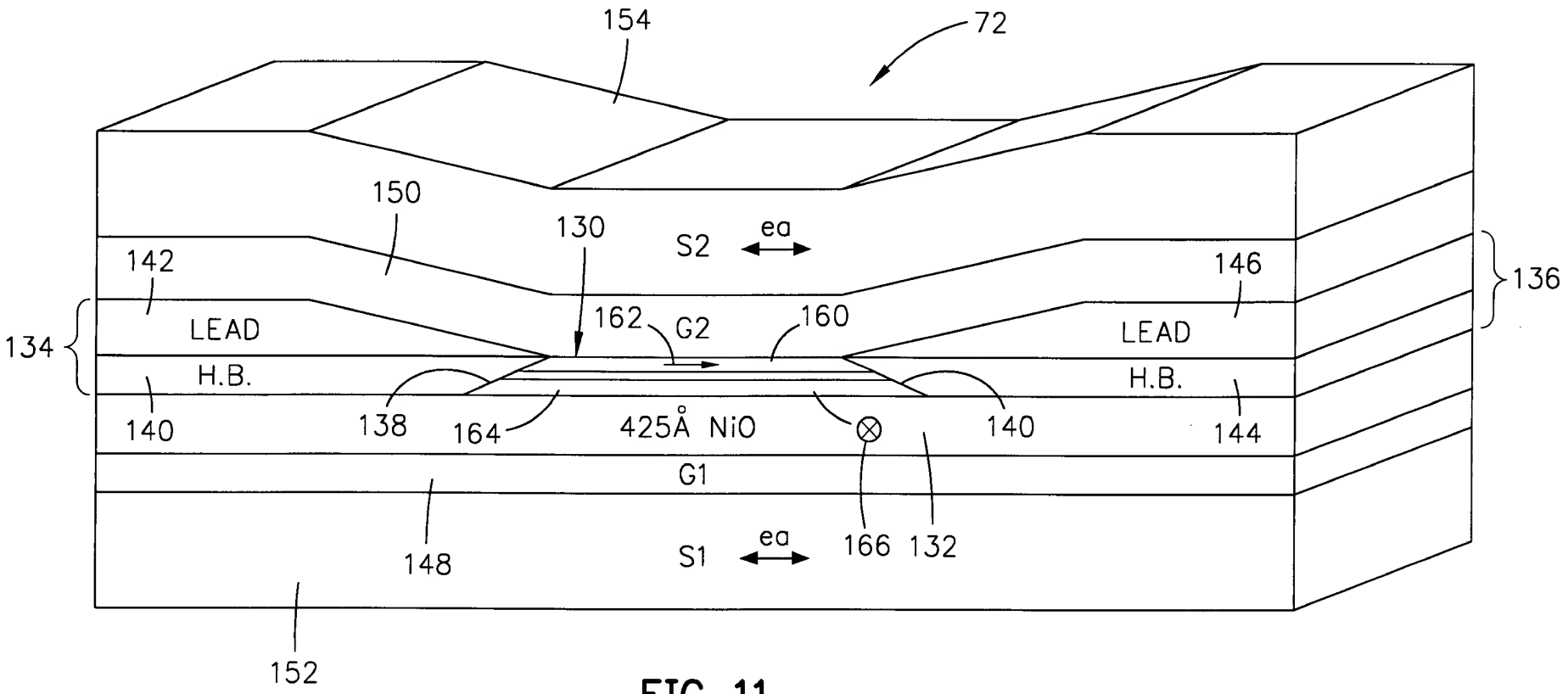
154
72
150
130
S2
ea
142
146
136
134
LEAD
162
G2
160
LEAD
H.B.
H.B.
140
138
164
425Å NiO
140
144
G1
148
S1
ea
166
132
152

FIG. 11
(ABS)

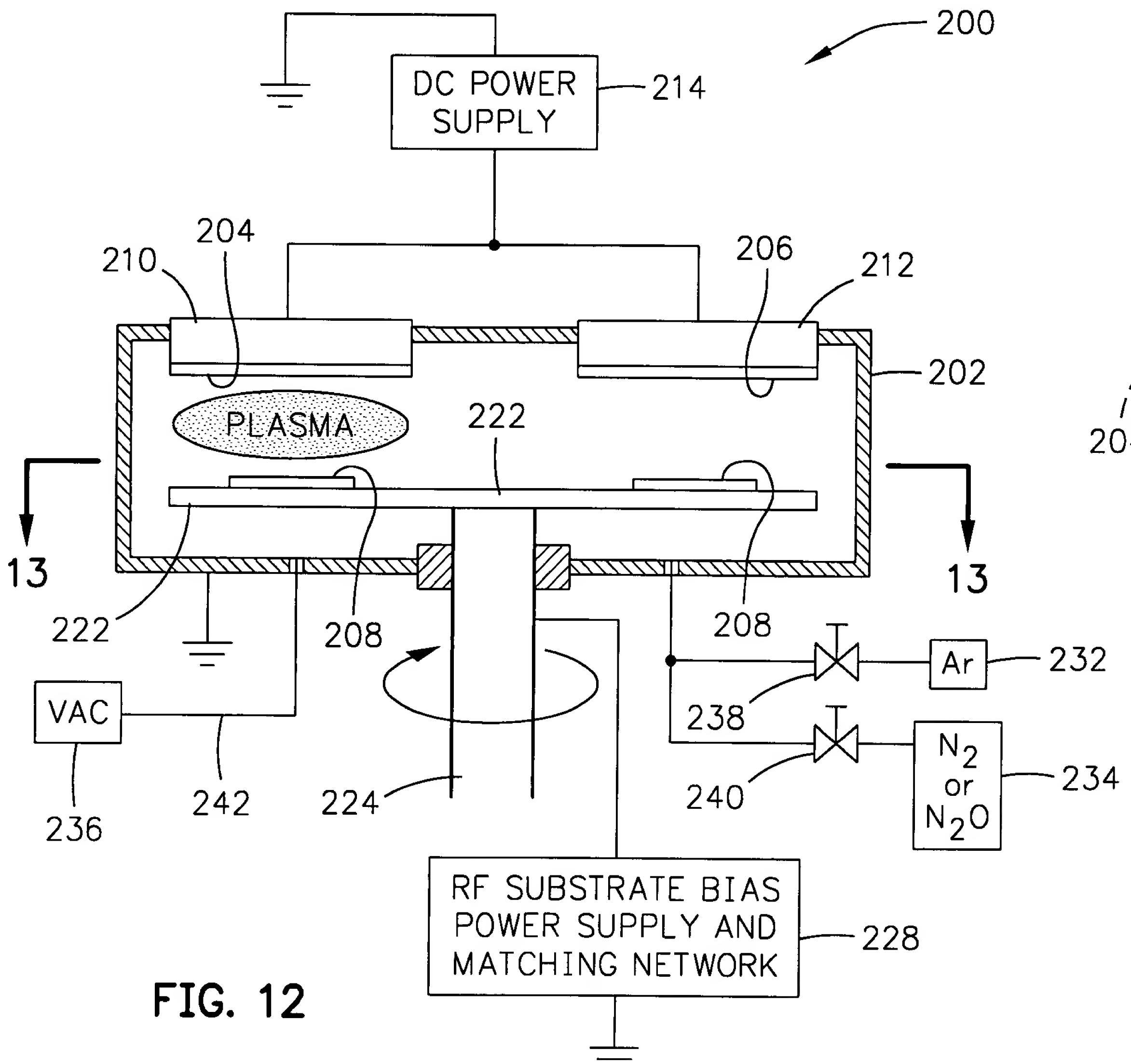
200
DC POWER SUPPLY
214
210
204
206
212
202
PLASMA
222
13
222
208
208
13
Ar
232
238
N2 or N2O
234
240
VAC
236
242
224
RF SUBSTRATE BIAS POWER SUPPLY AND MATCHING NETWORK
228

FIG. 12

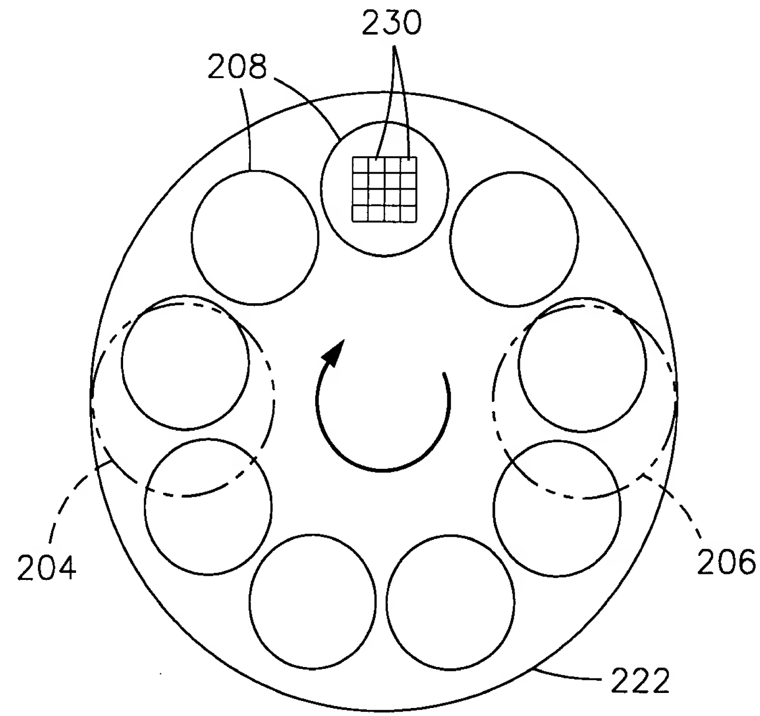
230
208
204
206
222

FIG. 13

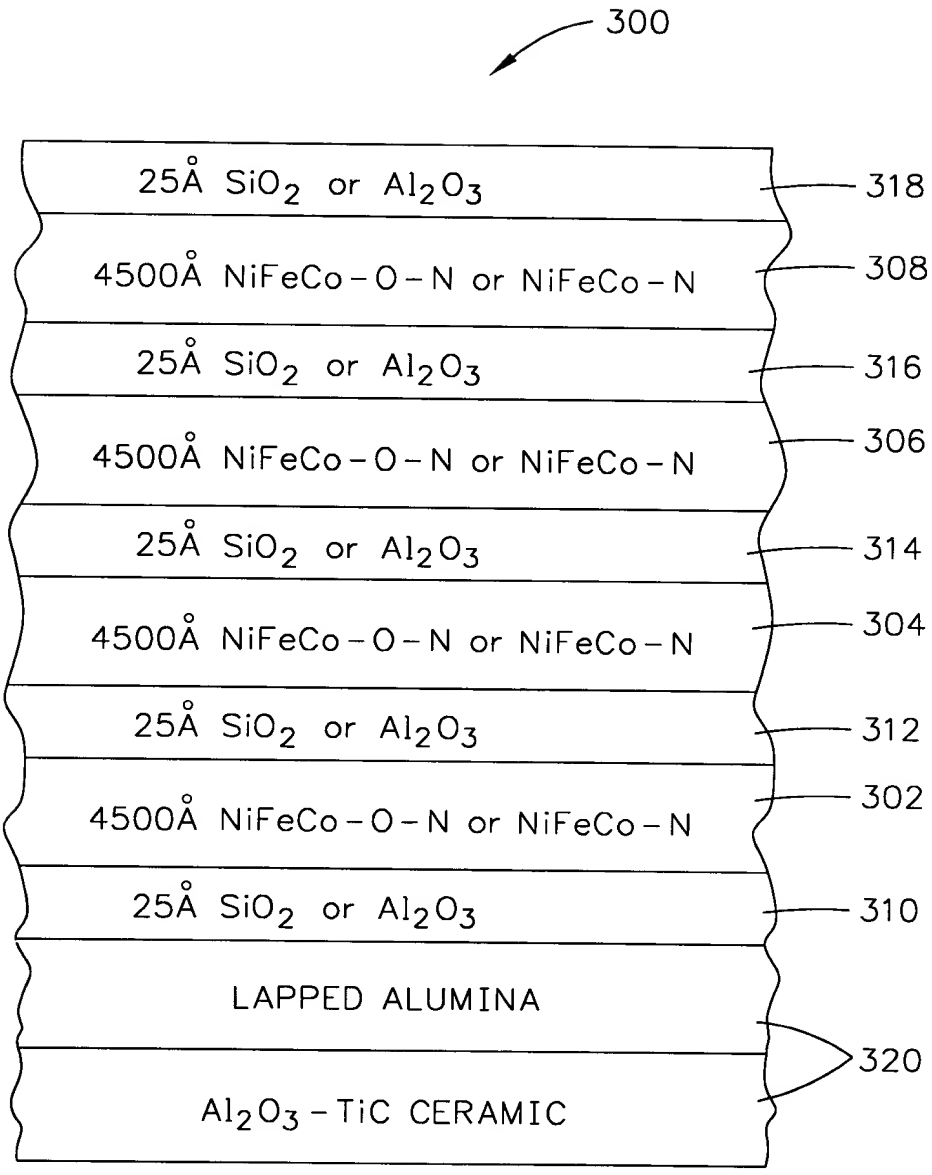
300
25Å SiO_2 or Al_2O_3
318
4500Å NiFeCo-O-N or NiFeCo-N
308
25Å SiO_2 or Al_2O_3
316
4500Å NiFeCo-O-N or NiFeCo-N
306
25Å SiO_2 or Al_2O_3
314
4500Å NiFeCo-O-N or NiFeCo-N
304
25Å SiO_2 or Al_2O_3
312
4500Å NiFeCo-O-N or NiFeCo-N
302
25Å SiO_2 or Al_2O_3
310
LAPPED ALUMINA
320
Al_2O_3-TiC CERAMIC

FIG. 14

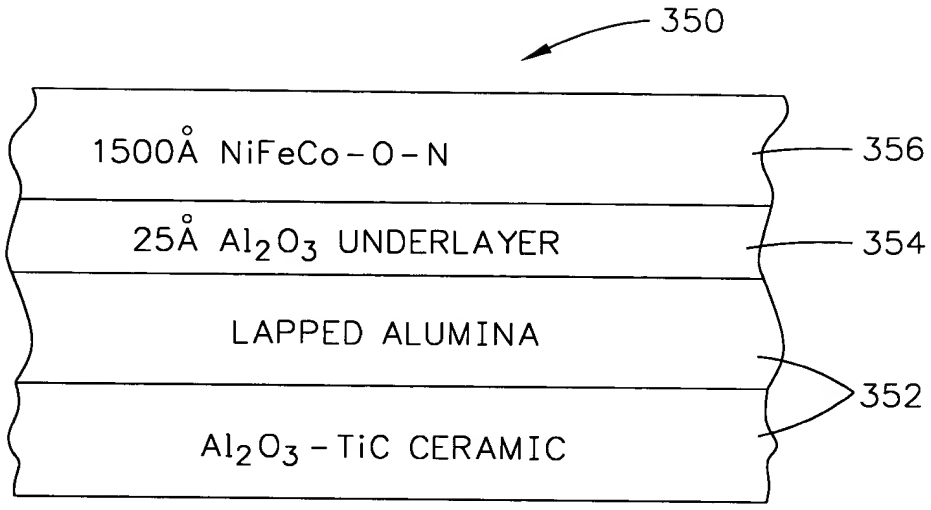

FIG. 15

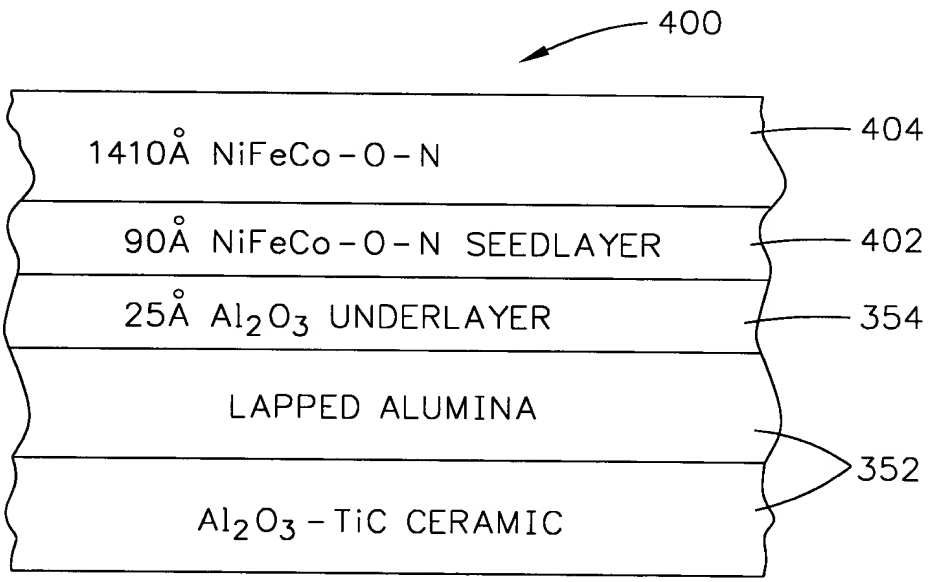

FIG. 16

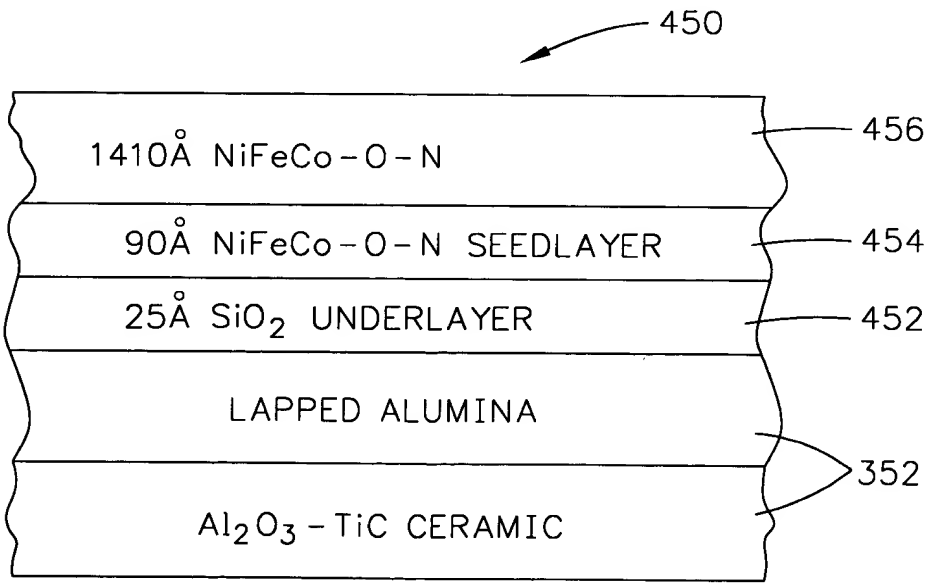

FIG. 17

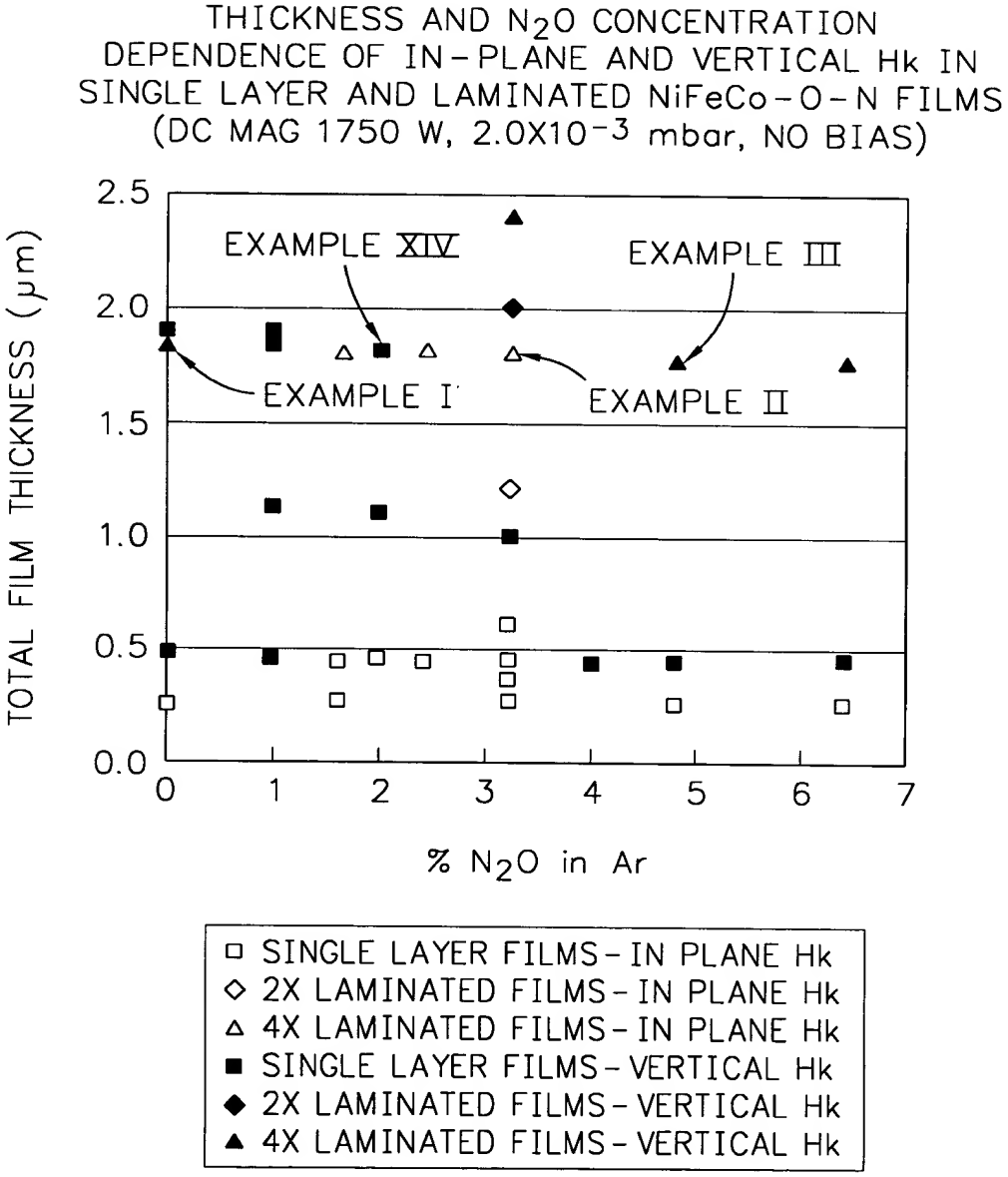

FIG. 18

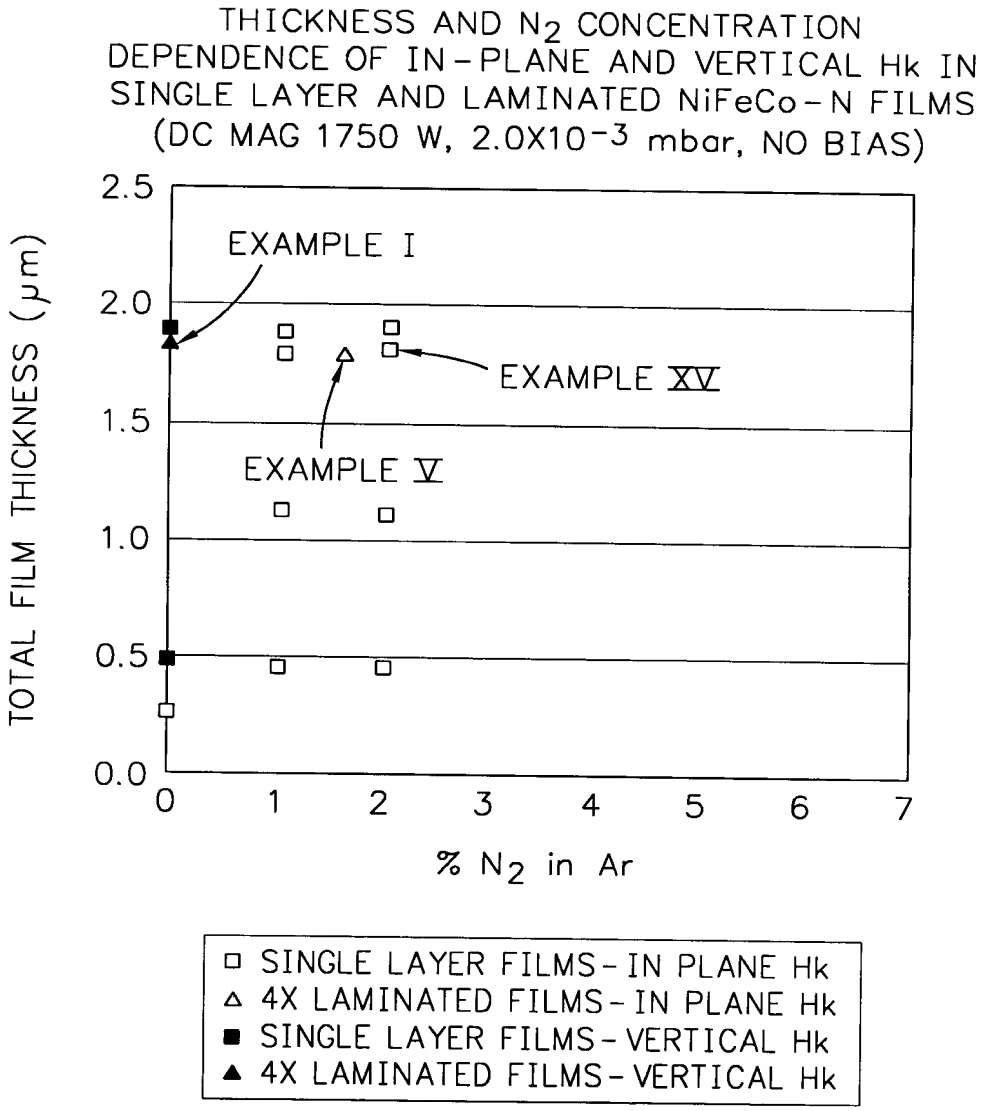
THICKNESS AND N_2 CONCENTRATION DEPENDENCE OF IN-PLANE AND VERTICAL Hk IN SINGLE LAYER AND LAMINATED NiFeCo-N FILMS (DC MAG 1750 W, $2.0X10^{-3}$ mbar, NO BIAS)
TOTAL FILM THICKNESS (μm)
2.5
2.0
1.5
1.0
0.5
0.0
EXAMPLE I
EXAMPLE XV
EXAMPLE V
0
1
2
3
4
5
6
7
% N_2 in Ar
SINGLE LAYER FILMS-IN PLANE Hk
4X LAMINATED FILMS-IN PLANE Hk
SINGLE LAYER FILMS-VERTICAL Hk
4X LAMINATED FILMS-VERTICAL Hk

FIG. 19

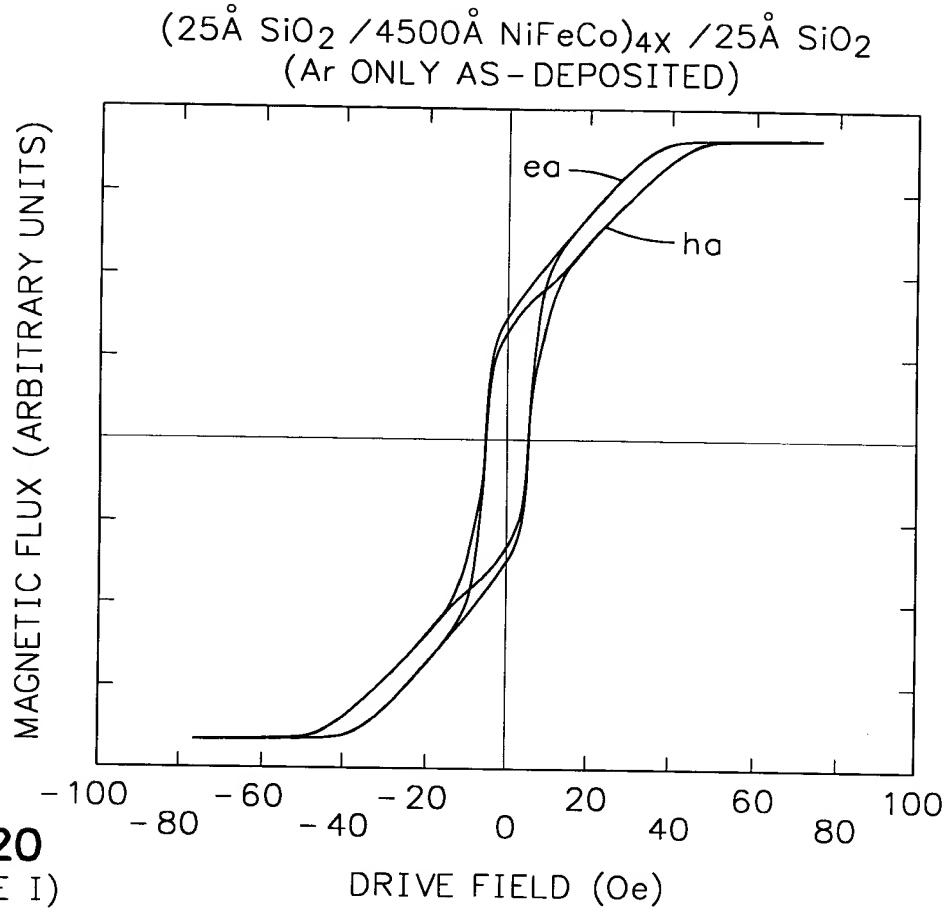

FIG. 20
(EXAMPLE I)

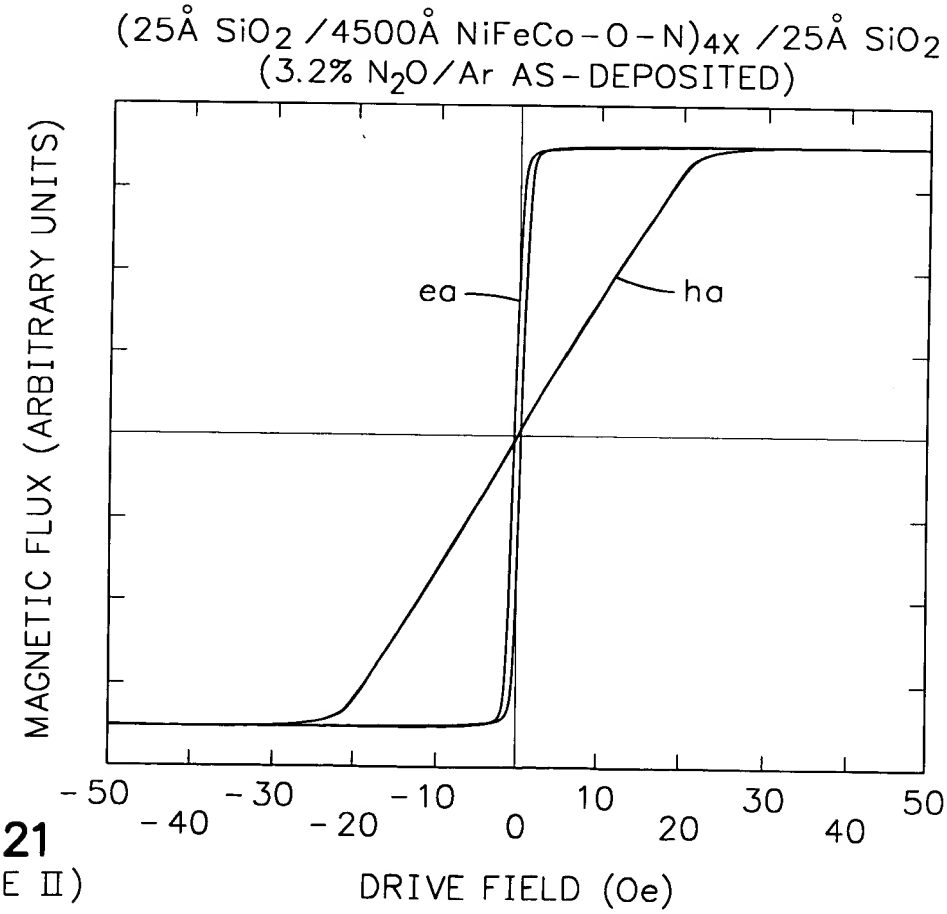

FIG. 21
(EXAMPLE II)

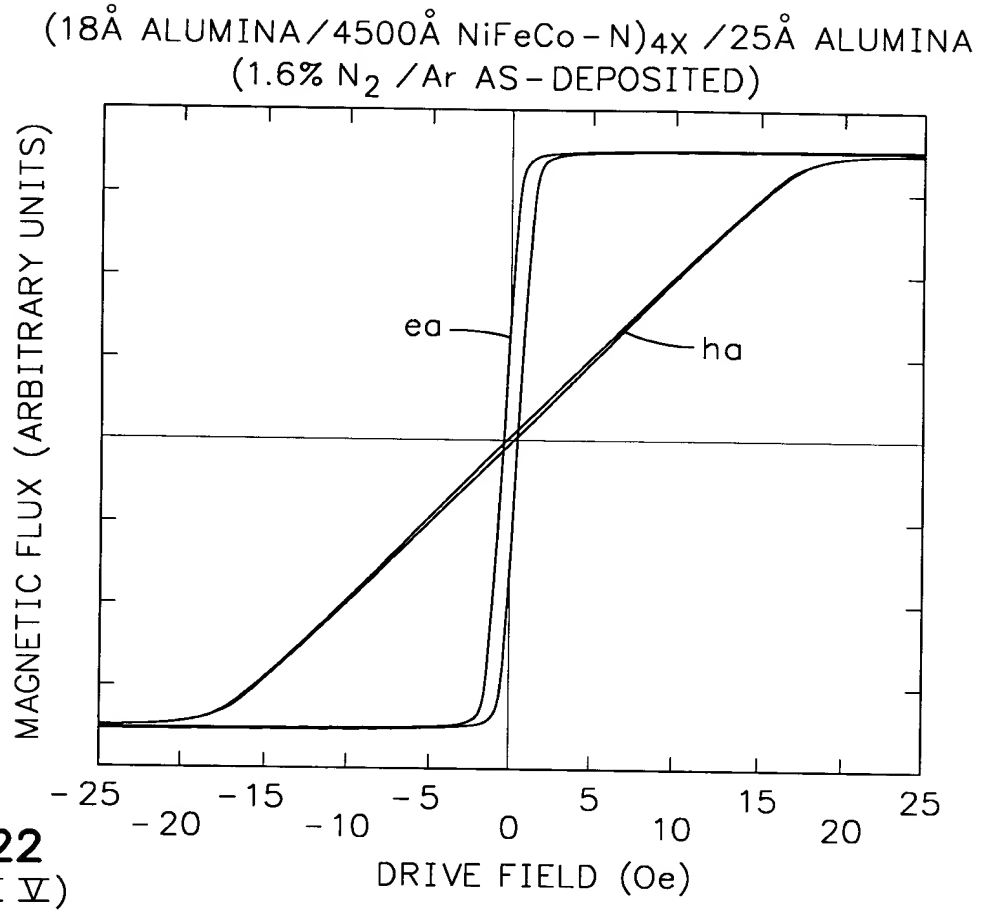

FIG. 22
(EXAMPLE V)

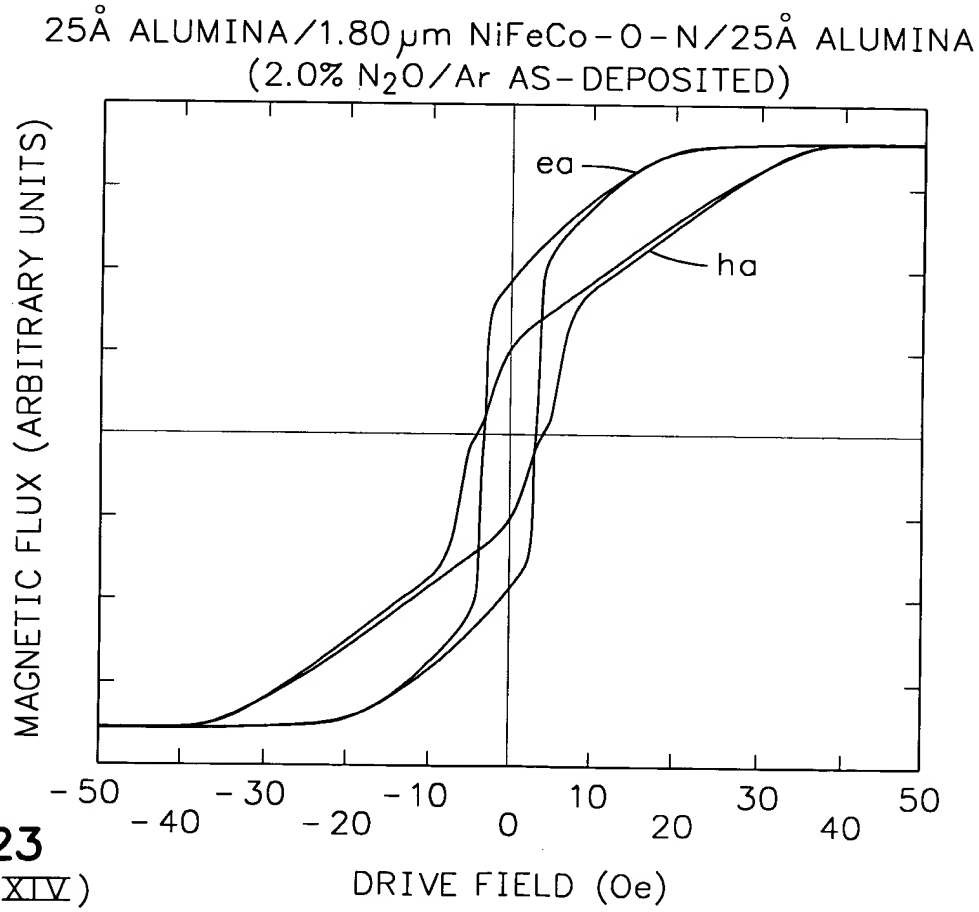

FIG. 23
(EXAMPLE XIV)

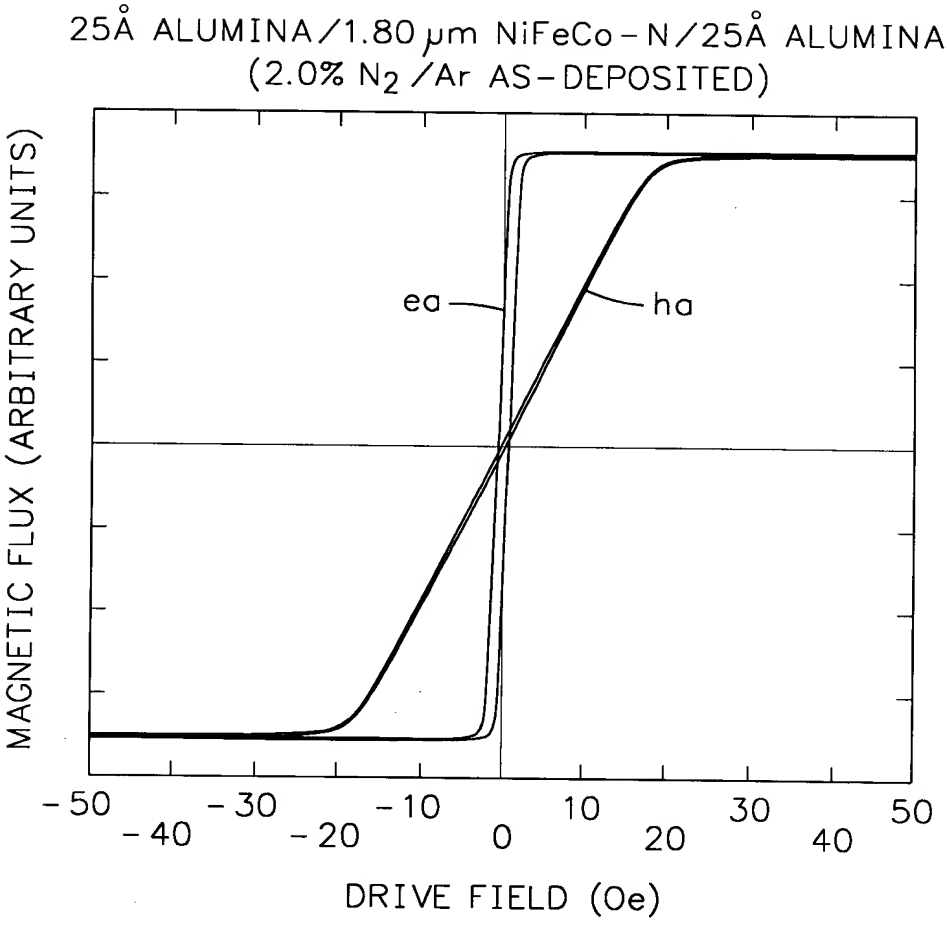

FIG. 24
(EXAMPLE XV)

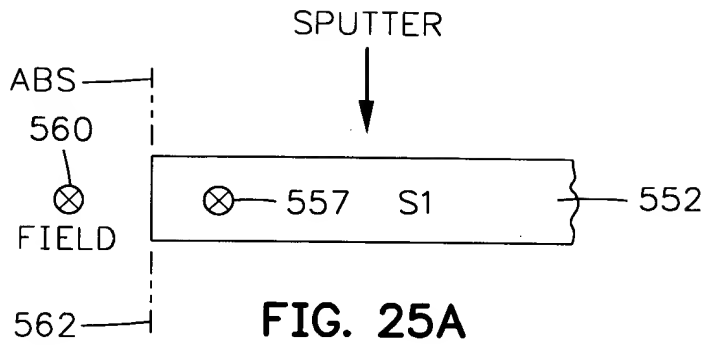

FIG. 25A

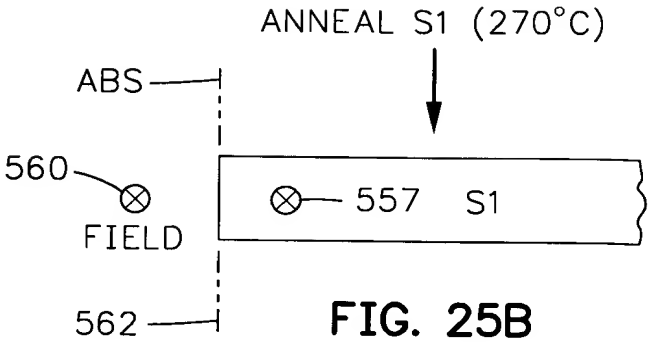

FIG. 25B

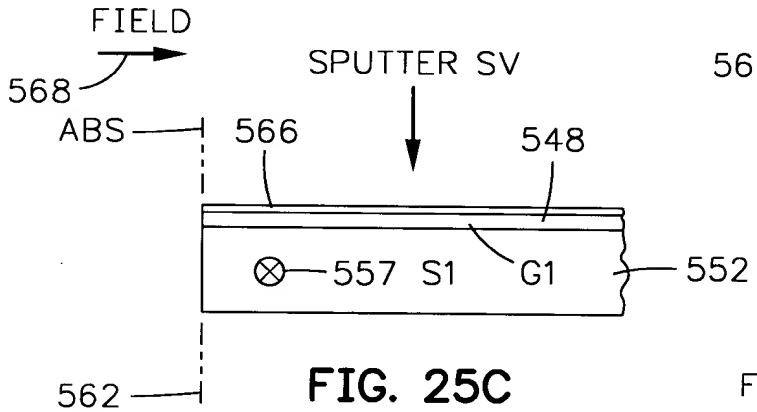

FIG. 25C

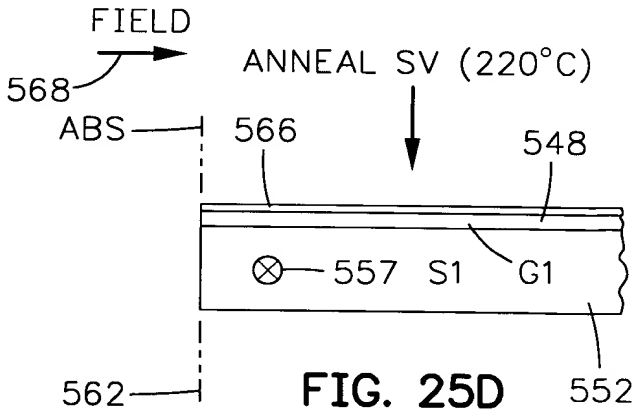

FIG. 25D

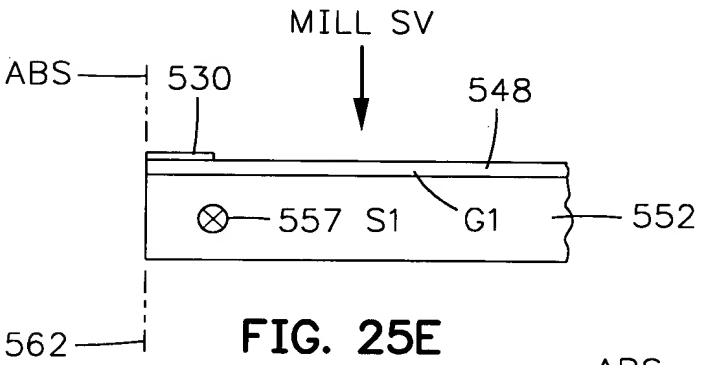

FIG. 25E

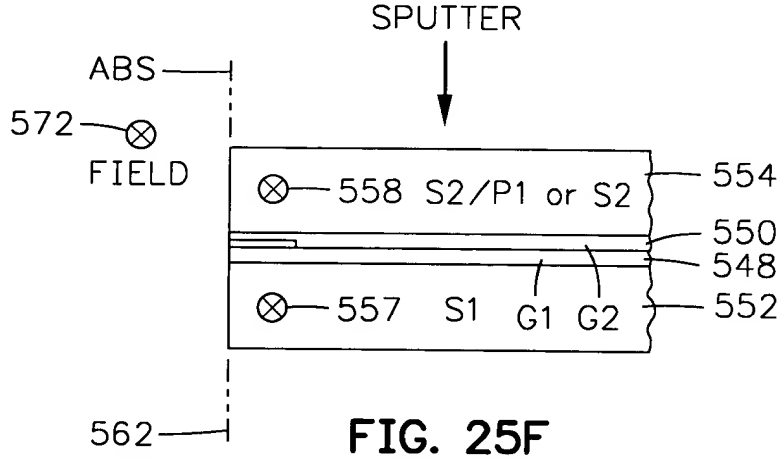

FIG. 25F

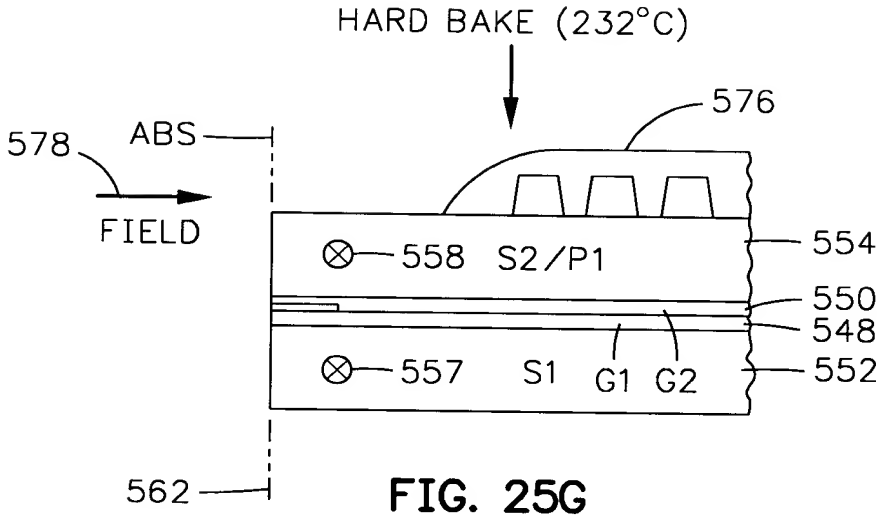

FIG. 25G

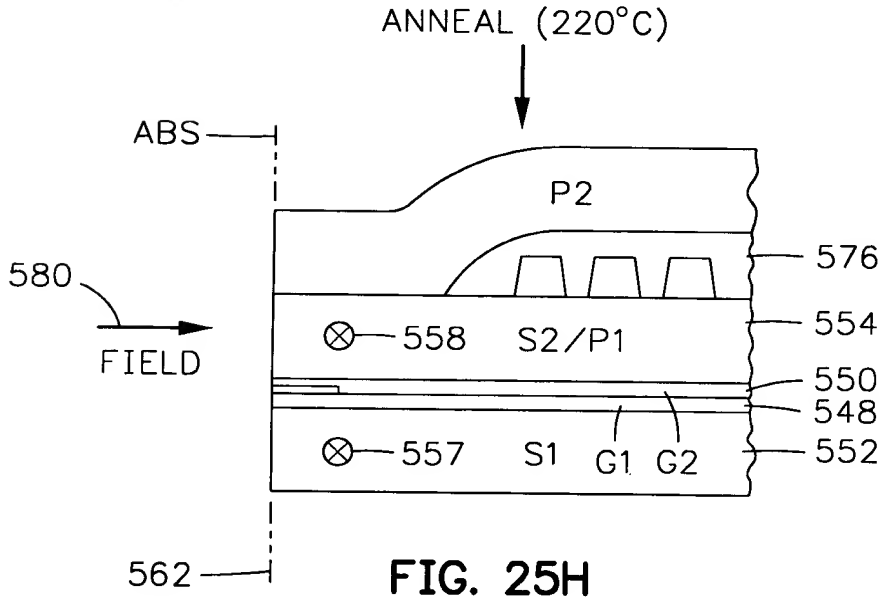

FIG. 25H

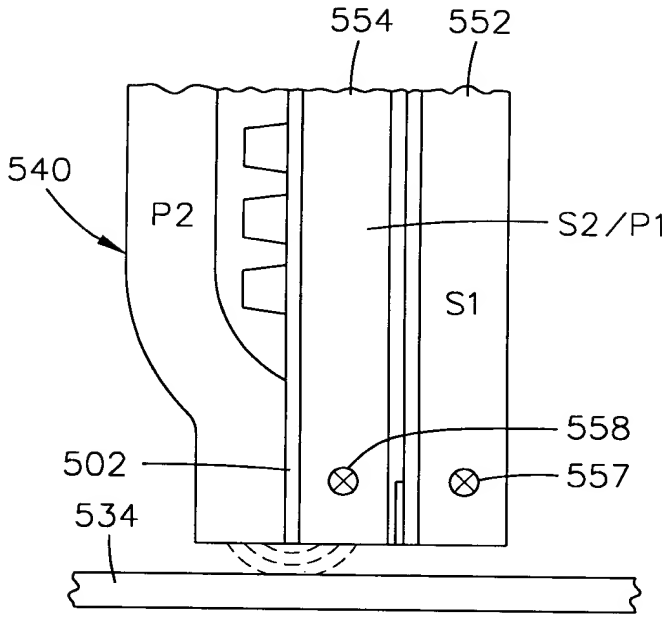
554
552
540
P2
S2/P1
S1
558
502
557
534

FIG. 26

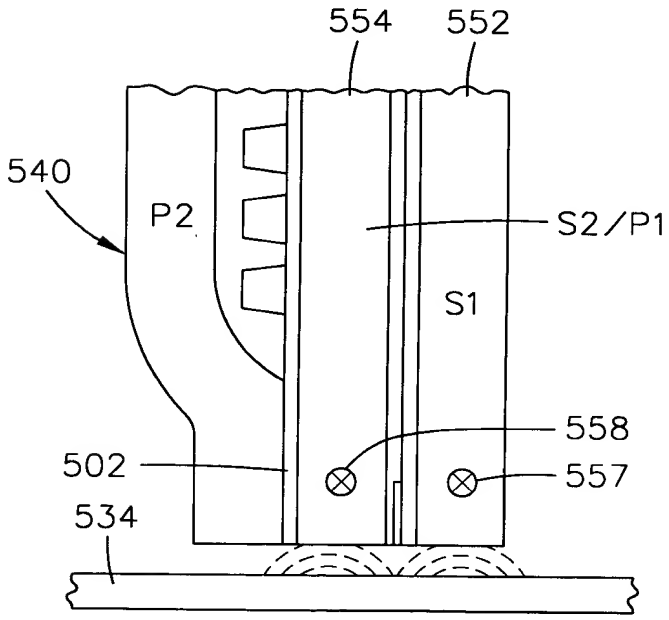
554
552
540
P2
S2/P1
S1
558
502
557
534

FIG. 27

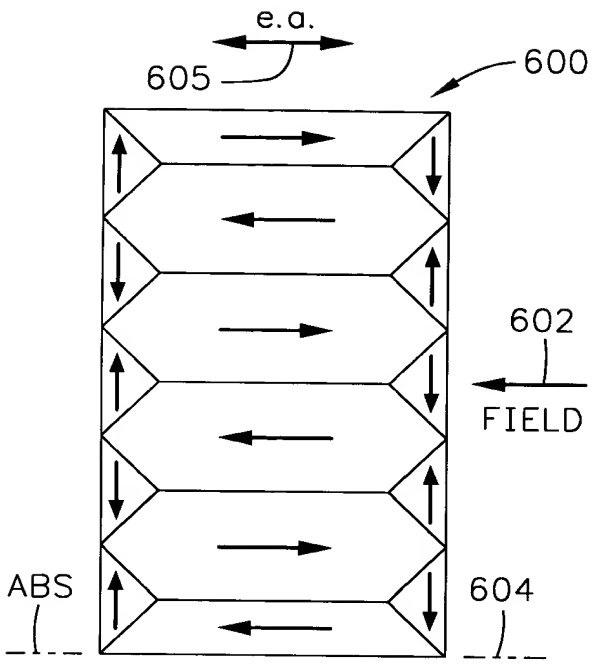

FIG. 28A
(PRIOR ART)

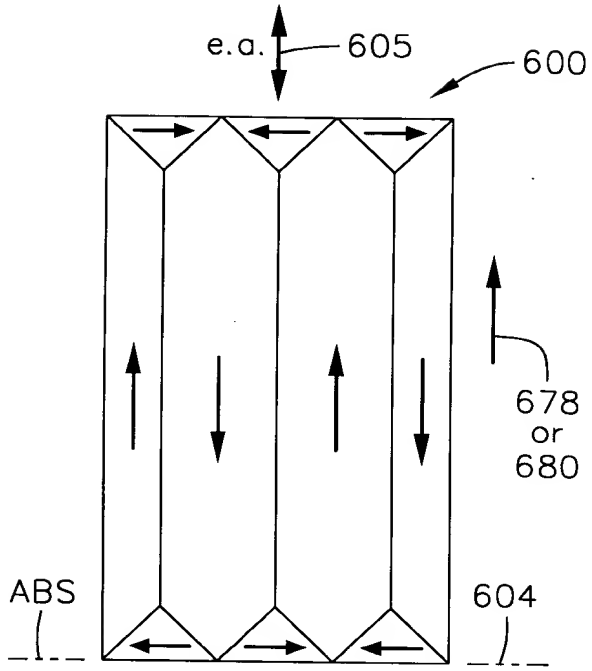

FIG. 28B
(PRIOR ART)

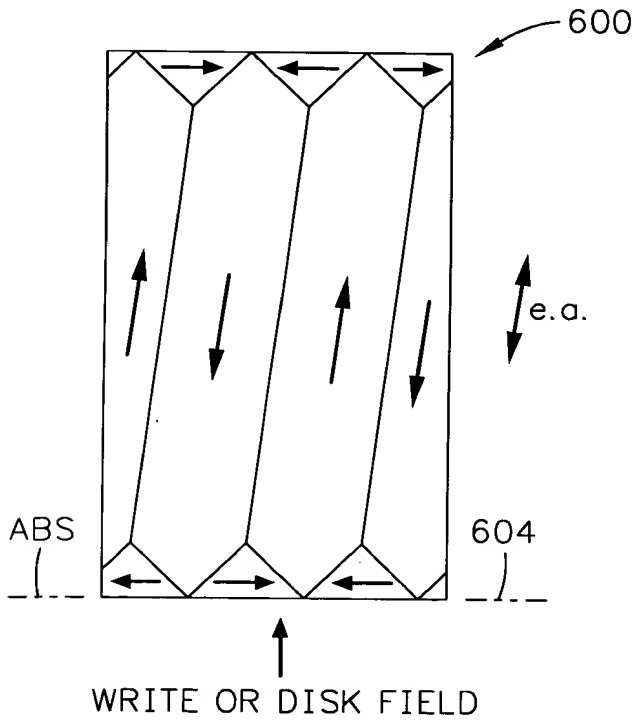

FIG. 28C
(PRIOR ART)

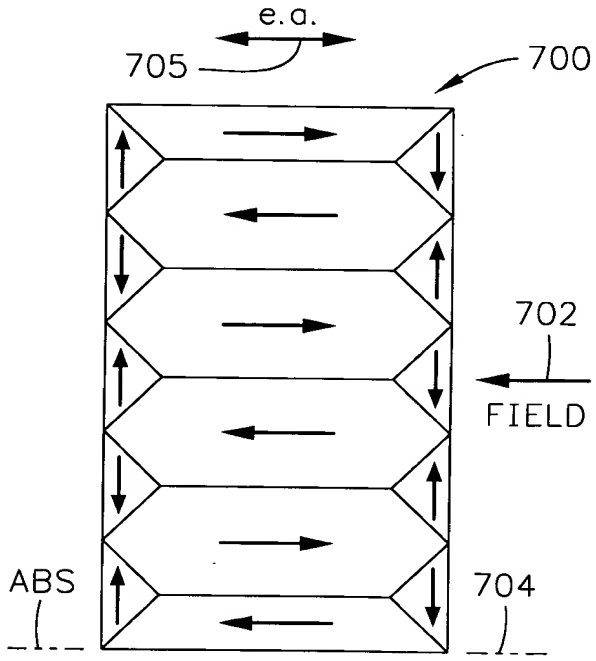

FIG. 29A

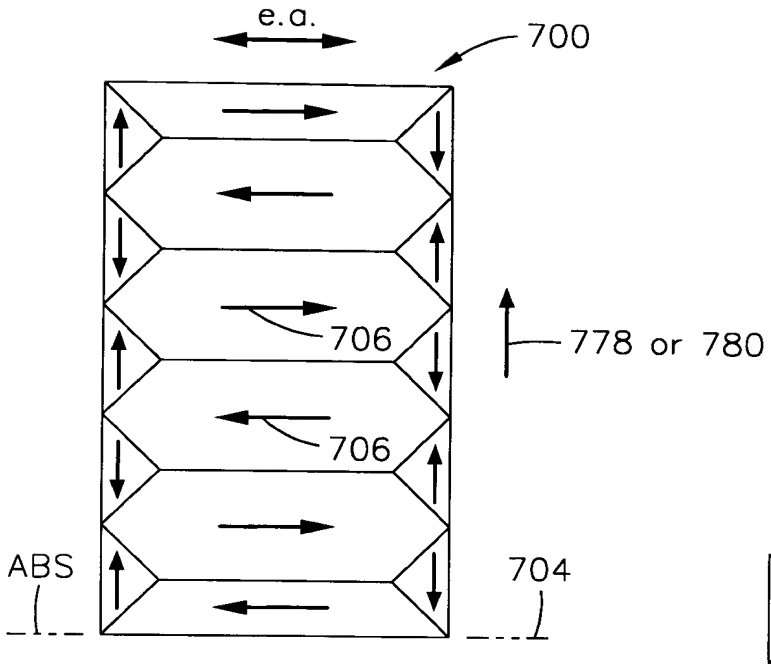

FIG. 29B

NiFeCo[-O]-N AFTER HARDBAKE ANNEALING OR RESETTING IN THE PRESENCE OF A FIELD PERPENDICULAR TO THE ABS

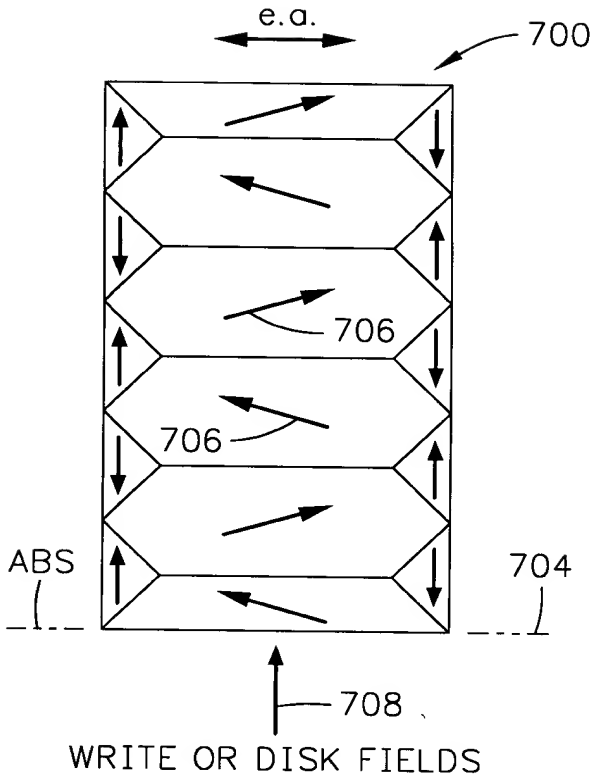

FIG. 29C

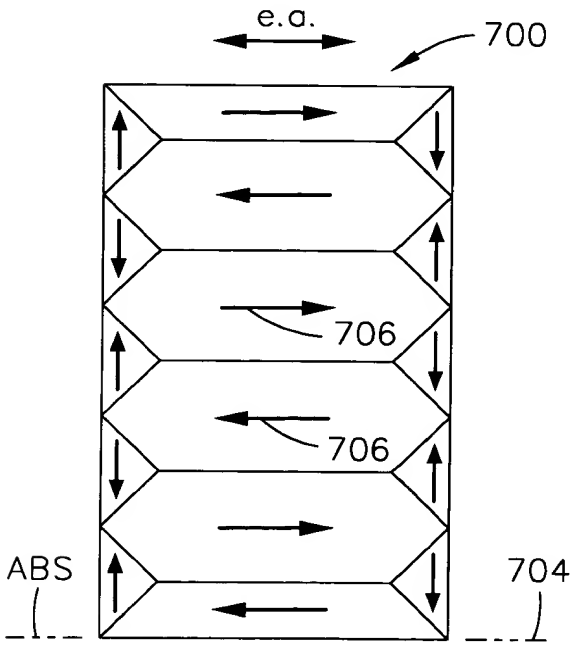

FIG. 29D